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AUTHOR Toukomaa, Pertti
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ABSTRACT

A study of the native language literacy of Finnish immigrant children in Sweden had as subjects the 81 Finnish immigrant pupils in grades 3-6 of a Swedish industrial city. At the time of the study, about 20 percent attended Finnish-medium classes, 34 percent attended Swedish-medium classes, and about 46 percent attended bilingual classes. Native language reading ability and Swedish language skills were measured by reading speed and comprehension tests and a standardized language skills test. Subjects' primary mental abilities were measured by addition, word analogy, visual reasoning, and synonym tests. The teachers' evaluations of the students' Swedish ability were available. The results of comparisons of these factors indicate that the immigrant children generally had poor reading skills in both Finnish and Swedish. In deductive and evaluative reading, the immigrant students did not approach the standard of students in Finland, despite normal results in visual reasoning tests. The relatively best results were in reading speed, suggesting an ability to read quickly without much comprehension. Native language teaching was found to be preferable to bilingual teaching with regard to reading, at least through the third grade. However, parallel second language teaching is recommended, with the formal objective of developing the maximum ability in both languages. (MSE)

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# ACQUISITION OF LITERACY UNDER LINGUISTIC MINORITY CONDITIONS: AN EXAMPLE FROM SCANDINAVIA

Paper by
Prof Pertti Toukomaa
Associate Professor in Social Psychology
Department of Sociology and Social Psychology
University of Tampere
FINLAND

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# ACQUISITION OF LITERACY UNDER LINGUISTIC MINORITY CONDITIONS: AN EXAMPLE FROM SCANDINAVIA

by
Pertti Toukomaa

## Reading as a cognitive process

Literacy is a continuously developing process comprising different stages. It can be defined as a second-order language skill in which the reader must be able to make use of his knowledge of languge in order to make decisions about visual symbols. The reader must be able to transform these representations into meaning. In order to learn to read, the child must possess a basic competence of the grammar of his language (Kaminsky 1976, 155). The concept of reading comprises at least the following aspects:

1) it is a process where the message is absorbed and recated to,
2) it is thinking stimulated by written, and influenced by the model of the world,
3) it is one method of communication.

Reading is a cognitive process involving the abstraction of meaning. The cognitive process is seen in relation to the individual's interpretation of his environment. The individual interprets the environment only through his cognitive structures. He brings to the situation some internalized representations of external reality. The meaning he receives is dependent on his previous experiences, by which his model of the world has been developed. The same language in communication between two individuals is not enough. The communication also requires some degree of correspondence between their models of the world. The same is true between the reader and the writer (Elias & Ingram 1977). Addorcing to Elias and Ingram reading is "a process, in which the individual is active as he seeks to extract meaning from the visual configurations before him". They emphasised that this extraction of meaning can be successful only when there is a relationship between the reader's world and the "intended meaning" of the visual configurations.

According to many researchers interpretation is essential in the reading process. Reading, at least at the advanced levels, cannot be regarded as a simple mechanical skill, bur as a thought reception process, requiring the reader to extract meaning from the text and not merely to pronounce the printed word (Williams 1978).

The reading process can be described as a whole according to Wardhaugh (1969), for example:

> "When a person reads a text, he is attempting to discover the meaning of what he is reading by using the visual clues of spelling, his knowledge of probabilities of occurence, his contextual-pragmatic knowledge, and his syntactic and semantic competence to give a meaningful interpretation to the text. Reading is not a passive process, in which the reader takes something out of the text without any effort or merely recognizes what is in the text."

Comprehension includes different levels. Carroll (1966) distinguishes two levels:

> "the comprehension of the literal sense of what is read, and the inferring of deeper meanings that are not explicitly stated."

In the development of literacy, the following stages can be discerned:

1) The stage of recognition where the reader reads the words and sentences mechanically. At this stage the reader does not necessarily understand the meaning of the text.
2) The stage or correct reading, where the reader can answer questions for which there is a literal answer in the text.
3) The deductive stage, where the reader considers the ideas in the text and draws conclusions on the basis of the indications provided by it. Thus the interpretation presupposes an analysis of the text which has been read.
4) The evaluative stage, which requires a ctitical analysis of the text from the reader as well as a comparison with matters outside the text - an investigation of the validity of the text, its nuances and intentions.
5) Creative reading represents the highest stage. Here the reader conceptualizes and creates a synthesis in a new way. (Klingberg 1973, Malmquist 1973, Vähäpassi 1977)

In a demanding sense, reading comprehension means an ability to move with ease from one stage of the process to another. The reader can only utilize the stages insofar as he masters them: sudden leaps from recognition to evaluation, for example, are not possible. A creative reader, on the other hand, can, if he so wishes, transfer to any stage. Apparently, reading and writing skills develop at an even pace with the increase and expansion of abstract thinking and the deepening of emotional life.

Literacy has been increasingly analyzed as a sociolinguistic concern in which societal variables are viewed as necessary attendants (Thorndike 1973, Malmquist 1973, Vähäpassi 1977). For the immigrant child of lower-class status, the difference between the formal language at school and the language at home can be great. The linguistic forms prevalent in the speech of lower-class individuals are combined with a dual language usage, additionally complicating the child's relationship to the school's expectations (Bernstein 1967). When the immigrant child starts school, he is confronted with materials that are written, for the most part, in the second dominant language rather than the home dominant language. In addition, the content of the reading material reflects the values and customs of the dominant culture and may cause the immigrant child difficulties in relating to the content, as well as the language, of the reading material he is given.

It has been found that disturbances in reading development are caused by deficiencies in the knowledge of vocabulary, and a failure to apprehend grammatical relations (Williams 1978). These kinds of disturbances in linguistic development are characteristic among the Finnish immigrant pupils in Sweden, for example (Lasonen & Toukomaa 1978, Toukomaa & Skutnabb-Kangas 1977). Children whose speech development is delayed are probably also backward in reading.

A psycholinguistic analysis of the reading process takes also into consideration the relationship between the spoken and written language. At the same time it emphasizes the relationship between spoken language and listening and asserts that in their preliterate language experiences children possess the competence both to receive and produce

the language. The second-order language skill, reading, forms "oral sequences and patterns into graphic sequences and patterns" (Goodman 1973, 16). According to Smith (1971), children at the initial stages of reading may recode graphic sequences into aural input, from which they derive meaning. When a child achieves relatively fluent literacy, he very likely collapses the process, simultaneously supplying the aural input with the recoding of the graphic unit. The difference between fluent and elementary reading may be epitomized in the manner in which the reader makes use of syntax, the bridge between surface structure and meaning. The fluent reader samples the visual information to confirm his expectations, relying on his knowledge of the language structure to make reasonable predictions. Unskilled readers do not project alternatives of meaning and are unable to utilize the syntactic components. Either word by word or letter by letter, they will have to record the text into sound which, if meaning is to be abstracted, will then have to be decoded via the phonological, syntactic, and semantic components. Some unskilled readers recode the visual configuration in the same way as those who fail to bring meaning to the reading process, but seek to determine a match at the level of the phonological component. Readers of this type who make errors may do so by "hearing" what they expect to hear (assuming the recoding process has been accurate), that is, to put it loosely, they may "speak" the text correctly but fail to abstract the correct meaning (Elias & Ingram 1977, 30-31).

Literacy is naturally connected with the reading material offered to the pupils: it is important to take into consideration the linguistic standard (vocabulary, grammatical structure etc.) and familiarity. In this respect it is important that the model of the world given by the material corresponds to the previous experiences of the pupils. In this case the motivation of the pupils is also better. The importance of experiences from the point of view of literacy has been particularly emphasized in Sweden by Malmquist (1973): words only mean something when transmitted through previous experience. While reading, a person uses his own experiences as a starting point, and from this premise attempts to understand the ideas and phenomena of the text.

Reading instruction according to the Finnish and Swedish curricula

According to the curriculum of the Finnish comprehensive school, the mother tongue teaching must comply with the overall objectives set for the comprehensive school. The general aims in mother tongue teaching are:

1) to make the pupil active and discerning in listening, viewing and reading, as well as an acute observer,
2) to teach the pupil to express his thoughts logically in speech and writing in a language which is acceptable as regards form and style,
3) to teach the pupil to read and understand what he reads in the way required by each reading situation,
4) to stimulate the creative activities of the pupil,
5) to enrich and clarify the knowledge of vocabulary and idioms in the mother tongue, and
6) to create in the pupil a lively interest and concern as regards the mother tongue and its phenomena (POPS II 1970, 29).

According to the syllabus of the Finnish comprehensive school, reading instruction has two functions. First, the pupil must learn to read with perfect pronouncitation the content of the text so clearly that others understand him clearly and understand the content. Secondly, the pupil must himself understand the content of the text while he is reading it to himself. According to the syllabus, the pupil is required to have:

- an ability to understand the meaning of single words
- an ability to conceive generalized concepts
- an ability to structure text to find the main sequence and its central ideas
- an ability to discover the facts necessary for an understanding of the content
- an ability to evaluate critically the text read
- an ability to connect what has been read to his sphere of experience (POPS II 1970, 31-36, 41).

In short, a pupil in the grades 3-6 in Finland is required to have a skill in reading accurately as regards the words and the content, the skill of deductive reading, and an ability to connect what has been read to his own experience.

According to the curriculum of the Swedish comprehensive school (Lgr 1969, 132) "reading instruction aims to give the pupils as good an ability as possible in orientating themselves in the world they ecperience with the help of words and pictures. It is not sufficient for them to have a technical reading ability, but they must also be able to extract a thought, a fact, a matter from texts and pictures. Reading instruction must therefore be directed from the beginning to accustom pupils to seeking the content of what they read and see".

According to the official curriculum of the Swedish comprehensive school, Finnisn language instruction for the Finnish immigrant pupils aims at giving the pupils a thorough readiness to listen, speak, read and write the Finnish language. The pupil must be able to express what he has read simply and clearly.

The curriculum claims, that a technical ability in reading is not sufficient, but the pupil must understand the thought, the fact and the matter of the texts. This requirement is based on the fact that many immigrant pupils quickly acquire a good reading technique, but do not understand what they read (Lgr 69 supplement 1973).

The education of Finnish immigrant pupils who canspeak Finnish, but not read or write it, must start with thorough instruction in reading and writing the mother tongue (Lgr 1969, 215-216).

The aims of reading instruction in both the Finnish and Swedish curricula are very similar. In the Swedish curriculum it is stated that, according to international experience, reading instruction for immigrant pupils should, if possible, be started in their mother tongue.

## The literacy of Finnish immigrant children in Sweden

Studies measuring a knowledge of languages and linguistic talent factors have been carried out among Finnish immigrant children in Sweden. In these, the linguistic backwardness of Finnish immigrant children as regards both Finnish and Swedish has been established without exception (e.g. Johannesson 1976). This semilingualism (Hansegård 1968) means that neither language properly functions as a means of communication. As a consequence, school achievement requiring verbal ability generally remains poor (Toukomaa 1977). Further education after the comprehensive school has been found to be sparse among immigrant pupils (Statistiska meddelanden 1978). This is also connected with the verbal ability of the pupils, which would appear to be a consequence of the present insufficient mother tongue medium instruction.

It can be assumed that even literacy has not been able to develop in the way normal to the age-group among the immigrant pupils. A small study (Toukomaa & Lasonen 1979) attempted to survey the standard of reading among Finnish immigrant pupils in Sweden of 10-13 years of age. The main emphasis was on reading in the mother tongue (Finnish), but it was possible to test a number of the subjects with reading tests in Swedish as well. The relationship between literacy in Finnish and in Swedish was also investigated, as well as the effects of some background and talent factors on literacy.

The subjects of the study comprised the Finnish immigrant pupils in the grades 3-6 of an industrial city in Central Sweden. The number of the subjects was 81, 45 girls and 36 boys. At the time of the study, 19.8 % of the pupils attended a Finnish-medium class, 34 % attended a Swedish-medium class, and 45.6 % attended a compound class. The number of those attending Finnish-medium classes was lowest due to the fact that in the city in question, at the time of the study, Finnish-medium classes only existed in grades 1-3.

Reading ability in the mother tongue - Finnish - was measured by means of a reading test intended for the 3rd grade pupils (10 years of age) of the Finnish comprehensive school (Vähäpassi 1977). The norms of the 3rd grade children living in Finland were also used for the 4th-6th grade immigrant children. Three sub-tests were chosen for the study, measuring reading speed (24 items) and two reading comprehension tests (together 44 items). The first of the reading comprehension tests emphasized correctness of reading, while the second measured deductive and evaluative reading.

Reading the Swedish language was measured by a test standardized for 4th-6th grade pupils attending the Finnish comprehensive school and speaking Swedish as their mother tongue (Brunell 1975). The sub-tests (26 items) measured the same sub-divisions of literacy as the Vähäpassi mother tongue tests used in the study.

The primary mental abilities of the subjects were measured by means of a test compiled by Heinonen (1963), and the following sub-tests were chosen: addition, word analogy, visual reasoning, and synonym tests. In addition, the teacher's evaluation of each subject's knowledge of Swedish was available. The material was compiled in the spring of 1978.

The principal aim of the study was to assess the literacy of the subjects in the mother tongue (Finnish). An analysis on the basis of age was also included despite the fact that the groups were quite small. For this reason the results must be considered to be mainly indicatory. Table 1 shows the test results of the subjects in the mother tongue reading test by grade.

TABLE 1. Means of the Finnish language reading tests by grade

| Test | Immigrant pupils | | | | Pupils in Finland |
|---|---|---|---|---|---|
| | 3rd grade (N=31) | 4th grade (N=19) | 5th grade (N=16) | 6th grade (N=15) | 3rd grade (N=931) |
| Reading speed | 13.9 | 16.6 | 17.7 | 20.7 | 17.1 |
| Correctness of reading | 9.8 | 12.9 | 13.4 | 13.6 | 13.6 |
| Deductive and evaluative reading | 9.3 | 10.5 | 9.7 | 11.3 | 13.3 |

In the reading speed test, the 5th grade pupils reached the standard of the 3rd grade in Finland. Thus, the Finnish immigrant pupils show a backwardness of about two years in reading speed in the mother tongue. The first reading comprehension test emphasized literal accuracy in reading. The immigrant subjects only reached the standard of 3rd graders in Finland (10 years) when on the 6th grade (13 years). Their backwardness as compared to pupils in Finland was even greater on the second reading comprehension test, which included evaluative and deductive reading.

The results show that immigrant children succeeded best in the mechanical reading, but had the least success in tests requiring deductive and evaluative reading skills. It has been discovered that teachers pay more attention to reading speed and correctness than to the content of the text and the understanding of concepts (e.g. Karvonen 1963). Thus, the teachers often receive a false idea of the real reading ability of the pupils.

Vähäpassi studied, on the basis of the normal material, to what extent pupils in the 3rd grade of the comprehensive school had acquired skills stipulated by the curriculum. Attempts were made in the study to make the measures correspond to teaching materials and the curriculum. On the basis of an investigation it was estimated that, in the reading comprehension test items, the pupil would have to answer at least half of them correctly to be able to cope properly with the syllabuses of academic subjects. In Finland 21-26 per cent of the 3rd grade pupils did not reach this standard (Vähäpassi 1977, 62-63).

The number of poor readers, on the basis of a criterion for 3rd graders in Finland, among the immigrant children was the greater the more deductive and evaluative reading was involved. Thus, in deductive and evaluative reading, approximately one half of even the 5th-6th grade pupils did not come up to the minimum requirements for 3rd grade pupils in Finland. When third grade Finnish immigrant pupils were compared with third grade pupils in Finland, it could be found out that approximately two thirds did not reach the minimum requirements in literacy. It would appear that in the Finnish-medium classes, which most of the pupils in the third grade attended, the teachers do not pay sufficient attention to the understanding of what is being read.

Comparison of the Swedish-medium and compound classes (where there are both Swedish and Finnish pupils with two teachers,one for each language group) shows no difference in the reading speed. The percentage of slow readers was 32 in Swedish-medium and 31 in compound classes. According to the figures, there are considerably more poor readers in the Swedish-medium (60 per cent) and compound classes (56 per cent) in texts inquiring deductive and evaluative reading than among pupils attending the 3rd grade in Finland (26 per cent). Bilingual teaching (compound class teaching) would appear to help the development of recognizing reading (correctness of reading), but not that of deductive and evaluative reading. As regards the last aspects of reading, there were almost as many poor readers in the compound classes as was the case in the Swedish-medium classes, while in recognizing reading there were considerably fewer poor readers in the compound classes: 35 per cent in the compound classes and 61 per cent in the Swedish-medium classes. The fewest poor readers among the immigrant children were found in the test of reading speed.

In the Vähäpassi study, the reading comprehension test items were grouped on three sub-areas of reading, arrived at on the basis of factor analysis (correctness of reading, deductive reading and evaluative reading). The percentages of solution for the items most clearly measuring each area were calculated (Toukomaa & Lasonen 1979, 18).

In comparison with the Finnish results, the pupils attending a compound class in the 5th and 6th grades, ages 12-18, gained better results than the 10-year-olds in Finland in correctness of reading. In deductive reading they reached almost the same level, but they were clearly backward in evaluative reading. On the other hand, pupils of a corresponding age attending Swedish-medium classes were much poorer in all sub-areas of reading than 10-year-olds in Finland. The Finnish-medium and compound instruction seems to have some influence on the deductive comprehension of reading, but not on the highest level, evaluative reading.

Test results for reading ability in the Swedish language were not available for all of the subjects. The reason for this was the fact that pupils in the 3rd grade had not yet been taught literacy in Swedish. For some of the 4th-6th grade pupils the test turned out to bee too difficult and they could not complete it. For this reason, only the results of pupils attending Swedish-medium classes are included.

In Finland, among Swedish-speaking pupils the average percentage of correct answers on the fourth grade in the Swedish language reading test was 62. The corresponding figure for the immigrant children attending Swedish-medium classes was 47. For the 5th and 6th grade pupils in Finland, who speak Swedish as their mother tongue, the average percentage of correct answers for the whole test was 75. For the subjects of this study in the 5th and 6th grades, who had been attending Swedish-medium classes from the beginning, the percentage of correct replies was 63. On the basis of the figures stated, it can be deduced that the immigrant pupils in question are one to two years behind the average achievement in literacy in Swedish.

It has often been found that ability in the mother tongue has a positive correlation with the ability in a foreign language. In the course of this study, attempts were made to discover wether similar correlation existed as regards reading ability. The length of residence in Sweden had a positive correlation with the Swedish language reading test (.24) and a negative one with the Finnish language tests (.25 on the average). The effect of the length of residence was eliminated by means of the partial correlation method.

The highest correlations were found between the Finnish and Swedish reading speed tests (.40). The reading comprehension tests in Finnish and Swedish correlated positively, too (from .20 to .25). The word analogy test measuring ability in the Finnish language seems to have a clear relationship with the standard of literacy in Swedish, correlations coefficient being .46. Success in the word analogy test requires a vocabulary in the mother tongue as well as a logical deduction ability, and a mastery of these skills seems to have a positive effect on literacy in Swedish.

## Conclusions

The study showed the poor abilities of Finnish immigrant pupils in reading ability in both Finnish and Swedish. In deductive and evaluative reading especially, the immigrant pupils did not come anywhere near the standard of pupils in Finland. The relatively best results were found in the reading speed. The immigrant pupils can read quickly

without, however, properly understanding the content of the text. Teachers in general have been found to pay attention mainly to correctness of reading and have forgotton to teach an understanding of the content of the text. The same fact has been observed in earlier research results dealing with the language ability and school achievement of Finnish immigrant children in Sweden (Toukomaa & Skutnabb-Kangas 1977). In these studies, it was found out that Finnish immigrant pupils suffered from a backwardness of two to three years in developmental age in their knowledge of Finnish. This study showed a corresponding backwardness in reading as well. Among the Finnish pupils attending Swedish-medium classes the backwardness was more than three years in Finnish language reading, and about two years in reading Swedish. This has negative effects the success in all school academic subjects. IEA (International Project for the Education of Educational Achievement) has indisputably shown that reading comprehension is of crucial importance from the point of view of the quality of school achievement, above all where academic subjects are concerned.

In this study, teaching in the mother tongue (Finnish-medium classes) proved to be preferable to compound teaching from the point of view of reading, at least up to the 3rd grade. Teaching in compound classes seems to provide readinesses for correct, recognizing reading, but not for a deeper, evaluative kind of reading. It has been shown that, as far as non-verbal abilities are concerned, Finnish immigrant children are quite up to the normal level (e.g. Stockfelt-Hoatson 1978, Toukomaa 1977). In this study also the pupils gained normal results in the non-verbal visual reasoning test.

In the sensory motor areas required for reading, the Finnish immigrant pupils have been found to be normally developed in the visual and optical areas, but they show weaknesses in the kinaesthetic and auditive areas (Toukomaa & Skutnabb-Kangas 1977, Lasonen & Toukomaa 1978). This shows that the kinaesthetic and auditive areas have not received adequate training. Training should be started soon before the school age. Since the vocabulary and comprehension of concepts are poorly developed among the immigrant pupils, reading instruction should also include the development of these areas. Thus, the emphasis in reading instruction should lie on reading comprehension rather than on the traditional reading fluency and accuracy of reading.

The results of the reading tests show the immigrant pupils as heterogeneous in the level of their achievement. As a consequence, each age group should be provided with different level teaching material. Generally, the text should be linguistically easier than material for children of a corresponding age in the country of origin. For example, the teaching material for 13-year-old immigrant pupils should be linguistically at the same level as books for 10-year-olds in the country of origin, but the content should correspond to their own age group. The good readers, on the other hand, should be provided with more difficult teaching material.

It has been found that the poorer the reading ability of the pupil, the more familiar and intimate should the sphere be from which his reading material is chosen (Vähäpassi 1977). Considering the sphere of experiences of the immigrant pupils, as well as the difficulty of the text is very important. The content of the reading matter should be connected with the experiences, the vocabulary, mastery of syntax etc. among the immigrant children. Reading instruction should be integrated with other language teaching.

Experiences in teaching children in the pre-school age to read, who live in a bilingual environment (e.g. Andersson 1979) show that they should be taught literacy in the mother tongue before school age. Among others, Christian (1976) also submits that the ideal would be to teach literacy and writing in the mother tongue before school entry.

Instruction in the mother tongue should continue parallel with the majority language throughout the school, while the formal aim should be to obtain the maximum ability in both languages. The use of suitable material increase interest in reading, which, for its part, affects the standard of literacy and general linguistic development. According to studies in bilingualism undertaken in different parts of the world, a good knowledge of the mother tongue constitutes the basis also for learning a foreign language. Naturally, this also applies to literacy.

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